UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,838	03/30/2004	Theoharis C. Theoharides	2003133.125US10	3057

23483 7590 03/09/2009

WILMERHALE/BOSTON
60 STATE STREET
BOSTON, MA 02109

EXAMINER
WANG, SHENGJUN

ART UNIT	PAPER NUMBER
1617	

NOTIFICATION DATE	DELIVERY MODE
03/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

michael.mathewson@wilmerhale.com
teresa.carvalho@wilmerhale.com
sharon.matthews@wilmerhale.com

Office Action Summary	Application No.	Applicant(s)	
	10/811,838	THEOHARIDES, THEOHARIS C.	
	Examiner	Art Unit	
	Shengjun Wang	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *40-60* is/are pending in the application.

4a) Of the above claim(s) *45-48* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *40-44 and 49-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 9, 2008 has been entered.

2. The terminal disclaimer filed on December 9, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US patents 6,635,625, 6,645,482, 6,624,148, 6,641,806, 6,984,667, 7,115,278 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting Rejections

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 40, 43 and 49-51 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 40 of copending Application No. 10.610,909; in view of Widyarini et al. and Oka et al. (JP 06-16531) The patents claims an anti-inflammatory composition comprising proteoglycan (chondroitin), flavonoid, and olive kernel extract, '909 does not expressly claim the employment of isoflavonoid, such as phenoxodiol.

5. However, Widyarini et al. teaches that isoflavonoids, such as phenoxodiol (dehydroequol), and genistein, are potent anti-inflammatory agents. Oka et al. teaches that genistein is known to have anti-inflammatory activity. See, particularly, the abstract, the claims, paragraph [0028], table 5 and paragraph [0043].

6. Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to further incorporate an isoflavonoid, such as phenoxodiol.

It is prima facie obvious to combine two compositions each of which is taught in the prior art to be useful for same purpose in order to form third composition that is to be used for very the

same purpose; idea of combining them flows logically from their having been individually taught in prior art; See In re Kerkhoven, 205 USPQ 1069.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 40, 43 and 49-51, are rejected under 35 U.S.C. 103(a) as being unpatentable over Florio (WO 0097/21434), in view of Singh et al. (US 5,858,371), Nobile et al. (US 4,265,823) (in light of Dr. Duke's phytochemical and ethnobotanical database), Widyarini. et al.; and Oka et al. (JP 06016531).

3. Florio teaches an anti-inflammatory composition comprising chondroitin sulfate, polyunsaturated fatty acid. See, particularly, the abstract.

4. Florio does not teach expressly the employment of quercetin, olive kernel extract, and isoflavonoids, such as genistein and phenoxodiol.

5. However, Singh et al. disclosed that quercetin is known to have anti-inflammatory activity. See, particularly, col. 8, lines 25 to col. 10, line 51. Noblie et al. (US 4, 265, 823) disclosed that estrole is a steroid which displayed anti-inflammatory properties (col. 10, lines 20-37). The claims state 'olive kernel extract'. Giving the phrase its broadest interpretation within reason, lacking any specific definition in the Instant specification, it is deemed that an 'olive

kernel extract' may be a crude extract, or an isolated phytochemical from the olive kernel (seed). Estrone is a compound endogenous to olive kernel (see for example, Dr. Duke's Phytochemical and Ethnobotanical Database*, page 2 of internet print-out). Widyarini et al. teaches that isoflavonoids, such as phenoxodiol (dehydroequol), and genistein, are potent anti-inflammatory agents. See, particularly, the abstract. Oka et al. teaches that flavonoids and isoflavonoids, including genistein, are known to have antiimflammatory activity. See, particularly, the abstract, the claims, paragraph [0028], table 5 and paragraph [0043].

6. Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to make a composition comprising chondroitin, a extract of olive kernel, such as estrole, a flavonoid, such as quercetin, and isoflavonoids, such as genistein and/or phenoxodiol.

A person of ordinary skill in the art would have been motivated to make a composition comprising chondroitin, a extract of olive kernel, such as estrone, a flavonoid, such as quercetin, and isoflavonoids, such as genistein and/or phenoxodiol because each of the ingredients are known to have anti-inflammatory activity. It is prima facie obvious to combine two compositions each of which is taught in the prior art to be useful for same purpose in order to form third composition that is to be used for very the same purpose; idea of combining them flows logically from their having been individually taught in prior art; thus, the claimed invention which is a combination of known anti-inflammatory agents sets forth prima facie obvious subject matter. See In re Kerkhoven, 205 USPQ 1069.

The evidence of record shows that the subject matter as claimed is a combination of known components selected for their known properties as anti-inflammatory agent. A claim which

unites elements with no change in their respective anti-inflammatory properties to yield a predictable result is not patentable in the absence of secondary considerations.

For over a half century, the [Supreme] Court has held that a "patent for a combination which only unites old elements with no change in their respective functions ...obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men." Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 152 [87 USPQ 303] (1950). This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

KSR Int'l v. Teleflex Inc., 82 USPQ2d 1385, 1395 (2007).

Thus, one of ordinary skill in the art would have had a reasonable expectation that the combination of these compounds would have been additively beneficial in treating any inflammatory condition including those conditions in prostate.

Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re AIler, 220 F2d 454,456,105 USPQ 233; 235 (CCPA 1955). see MPEP § 2144.05 part II A. Although the prior art did not specifically disclose the amounts of each constituent as in claim 42, it would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to determine all operable and optimal concentrations of components because concentration is an art-recognized result-effective variable which would have been routinely determined and optimized in the pharmaceutical art. Furthermore, it is well settled that the “intended use” of a product or composition will not further limit claims drawn to a product or composition. See, e.g., In re Hack 114 USPQ 161.

7. Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

8. Claims 41, 42, 44, 52-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Florio (WO 0097/21434), in view of Singh et al. (US 5,858,371), Nobile et al. (US 4,265,823) (in light of Dr. Duke's phytochemical and ethnobotanical database), Widyarini. et al. and Oka et al. (JP 06-16531) for reasons set forth above and in further view of Ip et al.

9. The cited references do not teach expressly the employment chemotherapeutic agent, such as tamoxifen.

10. However, Ip discloses that Tamoxifen is known to be useful for treatment of prostate cancer. See, particularly, the abstract.

11. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the claimed invention was made, to further incorporate tamoxifen in the composition for treatment of prostate cancer patients who have inflammatory conditions.

One of ordinary skilled in the art would have been motivated to incorporate tamoxifen within the composition for treatment of prostate cancer because the composition is useful for treatment of inflammatory condition in prostate and tamoxifen is known to be useful for treatment of prostate cancer. The evidence of record shows that the subject matter as claimed is a combination of known components selected for their known properties as anti-inflammatory agents and chemotherapeutic agent. A claim which unites elements with no change in their respective properties to yield a predictable result is not patentable in the absence of secondary considerations.

For over a half century, the [Supreme] Court has held that a "patent for a combination which only unites old elements with no change in their respective functions ...obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men." Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 152 [87 USPQ 303] (1950). This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

KSR Int'l v. Teleflex Inc., 82 USPQ2d 1385, 1395 (2007).

Response to the Arguments

Applicants' amendments and remarks submitted December 9, 2008 have been fully considered. The amendments and remarks are persuasive to overcome the rejections under 35 U.S.C. 112, first paragraph, but are not persuasive as to the rejections set forth above.

Applicants contend that Singh reference is not prior art as it was published after the effective filing date. It is noted that Singh reference is a US patent with filing date of April 21, 1997. Therefore, Singh reference is a prior art under 35 U.S.C. 102 (e). Applicants also contend that Widyarini reference is not a prior art. The examiner respectfully disagrees. It is noted that this application claims priority through CIP back to 1998. However, the subject matter, "phenoxodiol (dehydroequol)" does not have support in any of the parent applications and has the priority only to the filing date of this application. Therefore, Widyarini is a prior art for this application in the aspect of using phenoxodiol as anti-inflammatory agent.

Applicants also argue that cancer inflammation is not the same as inflammation present in arthritis. The arguments are not persuasive. Inflammation is a symptom of many distinct etiologies. Since the cited references teach the anti-inflammatory activity of the ingredient herein, one of ordinary skill in the art would have reasonable expectation that those ingredients are useful against inflammation regardless of the underlying etiology of the inflammation. A

prima facie case of obviousness has been established. Further, there is no evidence on the record showing that particular combination herein has any unexpected benefit.

Applicants have point out this application is a continuation-in-part of US application 09/771,669. It is noted that in the Utility patent Application Transmittal filed March 30, 2004, item 18, both divisional and continuation-in-part were checked.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang whose telephone number is (571) 272-0632. The examiner can normally be reached on Monday to Friday from 7:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shengjun Wang/
Primary Examiner, Art Unit 1617